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09/585,389	06/02/2000	Takeki Yazaki	NIT-200	5623

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EXAMINER

QURESHI, SHABANA

ART UNIT	PAPER NUMBER
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2155

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DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/585,389

Applicant(s)

YAZAKI ET AL.

Examiner

Shabana Qureshi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/6</u> | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The reference cited in the information disclosure statement (IDS, Paper Numbers 2, 3) have been considered by the examiner.

### ***Response to Amendment***

2. Claims 1 –20 are pending in this Office Action.
3. The amendments filed on 07 January 2004 has been considered but is ineffective to overcome the Teraslinna (US 5,812,525) reference.
4. Applicant argues that the teachings of Teraslinna are completely different from the present invention. Applicant argues that Teraslinna is concerned with generally constraining bandwidth usage over a plurality of virtual connections without the prioritizing recited in the pending claims.

As per Applicant's argument that Teraslinna is not concerned with priority when transmitting packets, Examiner disagrees. Examiner directs Applicant to column 4, lines 44-54. Here it is disclosed that there is a CLP (Cell Loss Priority) associated with each packet in the packet header. Cell Loss Priority is defined as a 1 bit field in the ATM cell header that determines whether or not a given cell should be dropped by network equipment during periods of congestion. Therefore, when priority is set, the cell/frame may be transmitted in times of congestion, while other cells may be dropped. Therefore, Teraslinna is concerned with priority when transmitting packets.

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***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Number 5,812,525 issued to Teraslinna .

With regards to claims 1 and 6, Teraslinna teaches a bandwidth monitoring method suitable for use in a network, comprising the steps of:

- for transmitting a specific type of packet in preference to packets other than the specific type of packet (column 4, lines 44-54);
- when a packet flows into the network, monitoring whether the packet violates a contract bandwidth being under contract with a source of the packet (column 2, lines 48-52);
- judging whether the packet corresponds to the specific type of packet (column 2, lines 58-64); and
- when the packet does not violate the contract bandwidth and does not belong to the specific type of packet, transmitting the packet as if it belonged to the specific type of packet (column 4, lines 44-64; column 6, lines 28-39).

As per claim 2, Teraslinna teaches the bandwidth monitoring method according to claim 1, wherein the packet has a header, and the judging as to whether the packet corresponds to the

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specific type of packet is performed according to a value in the header (column 4, line 44-column 5, line 7).

As per claim 3, Teraslinna teaches the bandwidth monitoring method according to claim 2, further comprising the step of:

when the value in the header does not correspond to a specific value indicative of the specific type of packet, changing the value in the header to a specific value (column 5, lines 8-39).

As per claim 4, Teraslinna teaches the bandwidth monitoring method according 2, wherein the header has a priority field and the judging as to whether the packets correspond to the specific type of packet is performed according to the value in the priority field (column 4, lines 44-54).

As per claims 5 and 9, Teraslinna teaches the bandwidth monitoring method according to claim 1, wherein the monitoring is carried out by using a leaky bucket algorithm with a first depth of bucket when the packet is not the specific type of packet, and a leaky bucket algorithm with a second depth of bucket different from the first depth when the packet corresponds to the specific type of packet, thereby to judge whether or not the packet violates the contract bandwidth being under contract with the source of the packet (column 16, lines 1-47).

As per claim 7, Teraslinna teaches the bandwidth monitoring method according to claim 6, further comprising the step of:

- transmitting the packet as a packet other than the specific type of packet when the bandwidth being used by the source of the packet exceeds the first

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bandwidth and the packet does not correspond to the specific type of packet (column 4, lines 44-54; column 6, lines 28-39).

As per claim 8, Teraslinna teaches the bandwidth monitoring method according to claim 6, further comprising the step of:

- transmitting the packet as a packet other than the specific type of packet when the bandwidth being used by the source of the packet exceeds the contract bandwidth and the packet corresponds to the specific type of packet (column 6, lines 28-39).

As per claim 10, Teraslinna teaches a bandwidth monitoring device for monitoring a bandwidth of packets which flow into a network, comprising:

- flow detecting means for detecting a flow of a series of packets based on at least one of a address information, use identification information and a network priority of an input packet, the network priority identifying the priority of the input packet within the network, and for determining a flow identifier indicative of an identifier of a flow to which the input packet belongs and a flow priority indicative of the priority of the input packet within the flow (columns 15, line 57 – column 16, line 47);
- a bandwidth check table including at least one entry comprising bandwidth monitoring control information indicative of control information for bandwidth monitoring and a plurality of the network priorities (columns 15, line 57 – column 16, line 47);

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- bandwidth check table control means for reading out an entry corresponding to the flow identifier from the bandwidth check table (columns 15, line 57 – column 16, line 47);
- check result decision means for performing a decision as to the conformance or violation of the bandwidth for the input packet, based on the flow priority, bandwidth monitoring control information within the entry read out by the bandwidth check table control means, and a value of a timer for indicating the present time (columns 15, line 57 – column 16, line 47); and
- priority decision means for determining a network priority of the input packet from the result of decision by the check result deciding means and a plurality of network priorities read out by the bandwidth monitoring table control means (columns 15, line 57 – column 16, line 47).

As per claim 11, Teraslinna teach the bandwidth monitoring device according to claim 10, wherein

- the check result decision means uses a leaky bucket algorithm having a plurality of bucket's depths as a bandwidth monitoring algorithm (column 16, lines 1-38), and
- the entry of the bandwidth check table indicates a depth of bucket for the priority packets and a depth of bucket for packets other than the priority packet (column 16, lines 1-47).

As per claim 12, Teraslinna teach a bandwidth monitoring device for monitoring a bandwidth of packets flow into a network, comprising:

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- connection priority decision means for determining a connection priority indicative of the priority of an input packet within a connection based on connection information of the input packet (column 9, lines 15-40);
- a bandwidth check table having at least one entry comprising bandwidth monitoring control information indicative of control information for bandwidth monitoring and network priorities corresponding to information for identifying a plurality of priorities in the network (column 7, lines 23-26);
- bandwidth check table control means for reading out an entry corresponding to an identifier of the connection from the bandwidth check table (column 7, lines 23-26);
- check result decision means for performing a decision as to the conformance or violation of the bandwidth for the input packet, based on the connection priority, bandwidth monitoring control information within the entry read out by the bandwidth check table control means, and a value of a timer for indicating the present time (columns 15, line 57 – column 16, line 47); and
- priority decision means for determining a network priority of the input packet from the result of decision by the check result decision means and a plurality of network priorities read out by the bandwidth monitoring table control means (columns 15, line 57 – column 16, line 47).

As per claim 13, the bandwidth monitoring device according to claim 12, wherein



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- the check result decision means uses a leaky bucket algorithm having a plurality of bucket's depths as a bandwidth monitoring algorithm (column 16, lines 26-47), and
- the entry of the bandwidth check table indicates a depth of bucket for the priority packets and a depth of bucket for packets other than the priority packet (column 16, lines 26-47).

As per claim 14, Teraslinna teaches a bandwidth monitoring device for monitoring bandwidth of packets which flow into a network, comprising:

- a flow detector for detecting priority of an input packet (column 15, line 60 – column 16, line 47);
- a memory containing a bandwidth monitoring control information corresponding to the flow to which the input packet belongs (column 16, lines 1-38); and
- a bandwidth monitor for performing a decision as to the conformance or violation of the bandwidth for the input packet, based on the priority and the bandwidth monitoring control information (column 16, lines 1-25),
- wherein the priority is indicative of the priority of the input packet among packets which belong to the flow (column 4, lines 44-54).

As per claim 15, Teraslinna teaches a bandwidth monitoring device according to claim 14,

- wherein the bandwidth monitoring control information comprises count information indicative of an amount of packets that formerly arrived (column 16), and the bandwidth monitor performs the decision for the input packet

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using a threshold of the count information (column 16, lines 30-47), the threshold information being set corresponding to the priority (column 4, lines 44-54) of the input packet.

As per claim 16, Teraslinna teaches a bandwidth monitoring device according to claim 15, further comprising a timer which indicates the present time,

- wherein the bandwidth monitoring control information further comprises information of arrival time of a former packet and information of a monitoring bandwidth (column 16);
- the bandwidth monitor performs the decision for the input packet further using the present time, the information of arrival time of a former packet, and information of monitoring bandwidth (column 16).

Although this feature is not explicitly stated in the Teraslinna reference, it is deemed inherent to the reference because column 16 discloses the calculation of average bit rate, peak rate, and computation of leaky bucket algorithm. The disclosed calculations would not be possible without a timer used for monitoring arrival times of former packets and keeping track of the present time.

As per claim 17, Teraslinna teaches a bandwidth monitoring device according to claim 16,

- wherein the count information is updated by using both the information of a monitoring bandwidth and information of time difference between the present item and the arrival time of a former packet (column 16).

Although this feature is not explicitly stated in the Teraslinna reference, it is deemed inherent to the reference because column 16 discloses the calculation of average bit rate, peak rate, and computation of leaky bucket algorithm. The disclosed calculations would not be possible without a timer used for monitoring arrival times of former packets and keeping track of the present time.

As per claim 18, Teraslinna teaches a bandwidth monitoring device for monitoring a bandwidth of input packets flowing into a network, comprising:

- a bandwidth monitor which decides the conformance or violation of the bandwidth for an input packet belonging to a flow, the packet having a priority among the packets belong to the flow, and the bandwidth monitor performing the decision by using the priority (column 4, lines 44-54; column 16, lines 39-47).

As per claim 19, Teraslinna teaches a bandwidth monitoring device according to claim 18,

- wherein the input packet is provided with a flow identifier indicative of an identifier of a flow to which the input packet belongs, and the bandwidth monitor performs the decision by using both the flow identifier and the priority of the input packet (column 4, lines 44-54; column 16, lines 1-38).

As per claim 20, Teraslinna teaches a bandwidth monitoring device for monitoring a bandwidth of each of input packets flowing into a network, a plurality of input packets which belong to the same flow comprising a first kind of packets each having a first priority and a second kind of packets each having a second priority, the bandwidth monitoring device comprising:

- a memory storing a bandwidth check table including at least one entry for indicating a plurality of threshold values to be used for decision as to the conformance or violation of the bandwidth for the input packets, each of the threshold values indicating a first threshold corresponding to the first priority and a second threshold corresponding to the second priority (column 16, lines 1-38).

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shabana Qureshi whose telephone number is (703) 308-6118. The examiner can normally be reached on Monday - Friday, 8:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on (703) 308-6662. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Shabana Qureshi  
Examiner  
Art Unit 2155

01 October, 2003

  
**HOSAIN ALAM**  
**SUPERVISORY PATENT EXAMINER**